



# MATERIAL SAFETY DATA SHEET

PRODUCT

**NALCO 39M**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **NALCO 39M**

APPLICATION : CORROSION INHIBITOR

COMPANY IDENTIFICATION :  
Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

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NFPA 704M/HMIS RATING

HEALTH : 2/2 FLAMMABILITY : 0/0 INSTABILITY : 0/0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	% (w/w)
Sodium Metasilicate	6834-92-0	1.0 - 5.0
Sodium Tetraborate	1330-43-4	1.0 - 5.0
Sodium Nitrite	7632-00-0	1.0 - 5.0
Sodium Nitrate	7631-99-4	1.0 - 5.0
Sodium Mercaptobenzothiazole	2492-26-4	0.0 - 0.1

## 3. HAZARDS IDENTIFICATION

### \*\*EMERGENCY OVERVIEW\*\*

#### WARNING

Contains sodium nitrite. May be harmful or fatal if swallowed. Substances in the product can lead to the formation of methemoglobin. Unborn children are particularly sensitive to methemoglobinemia. May cause skin and eye irritation. May cause sensitization by skin contact.

Do not get in eyes, on skin, on clothing. Do not take internally. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. If swallowed, seek medical advice immediately and show this container or label.

Protect product from freezing.

Wear suitable protective clothing, gloves and eye/face protection.

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. If product is allowed to dry, the sodium nitrite is an oxidizing agent and can initiate the combustion of other materials.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

Nalco Company 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access



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HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

Can cause moderate irritation.

SKIN CONTACT :

Can cause moderate irritation. May cause sensitization by skin contact.

INGESTION :

Not a likely route of exposure. Large exposures may be fatal. Ingestion of sodium nitrite can cause methemoglobinemia which can lead to cyanosis and possible death. Pregnant women and their fetuses are particularly sensitive to the effects of methemoglobinemia.

INHALATION :

Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

SYMPTOMS OF EXPOSURE :

Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

Chronic :

A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS :

Sodium Nitrite. Pregnant women are particularly sensitive to methemoglobinemia.

HUMAN HEALTH HAZARDS - CHRONIC :

Repeated ingestion of small amounts of sodium nitrite causes drops in blood pressure, rapid pulse, headaches and visual disturbances. It may also react with organic amines in the body to form carcinogenic nitrosamines.

#### 4. FIRST AID MEASURES

EYE CONTACT :

Immediately flush eye with water for at least 15 minutes while holding eyelids open. Get medical attention.

SKIN CONTACT :

Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

INGESTION :

Induce vomiting if the patient is fully conscious. If conscious, washout mouth and give water to drink. Get immediate medical attention.

INHALATION :

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition. Measures against circulatory shock, respiratory depression and convulsions may be needed.



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### 5. FIRE FIGHTING MEASURES

FLASH POINT : Not applicable

EXTINGUISHING MEDIA :

Not expected to burn. Use extinguishing media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. If product is allowed to dry, the sodium nitrite is an oxidizing agent and can initiate the combustion of other materials.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

### 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING UP :

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

### 7. HANDLING AND STORAGE

HANDLING :

Avoid eye and skin contact. Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Keep the containers closed when not in use. Use with adequate ventilation.

STORAGE CONDITIONS :

Store the containers tightly closed. Store in suitable labeled containers. Store separately from acids.

SUITABLE CONSTRUCTION MATERIAL :

Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.



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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### OCCUPATIONAL EXPOSURE LIMITS :

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

#### ACGIH/TLV :

Substance(s)

Borates, Tetra, Sodium TWA: 1 mg/m<sup>3</sup>

Salts -- Anhydrous

#### OSHA/PEL :

Substance(s)

Borates, Tetra, Sodium TWA: 10 mg/m<sup>3</sup>

Salts -- Anhydrous

#### ENGINEERING MEASURES :

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

#### RESPIRATORY PROTECTION :

Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Particulate filter - HEPA. with a Particulate pre-filter. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used.

#### HAND PROTECTION :

When handling this product, the use of chemical gauntlets is recommended., The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from, PVC, Gloves should be replaced immediately if signs of degradation are observed., Breakthrough time not determined as preparation, consult PPE manufacturers.

#### SKIN PROTECTION :

Wear standard protective clothing.

#### EYE PROTECTION :

Wear chemical splash goggles.

#### HYGIENE RECOMMENDATIONS :

Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

#### HUMAN EXPOSURE CHARACTERIZATION :

Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	Red
ODOR	None
SPECIFIC GRAVITY	1.095 - 1.125 @ 77 °F / 25 °C
DENSITY	9.15 - 9.35 lb/gal
SOLUBILITY IN WATER	Complete
pH (100 %)	11 - 12.0
FREEZING POINT	-20 °F / -29 °C
INITIAL BOILING POINT	212 °F / 100 °C
VAPOR PRESSURE	Same as water

Note: These physical properties are typical values for this product and are subject to change.

### 10. STABILITY AND REACTIVITY

**STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Extremes of temperature Do not allow product to evaporate to dryness. Dried product residue can act as an oxidizer.

**MATERIALS TO AVOID :**

Contact with reducing agents (e.g. hydrazine, sulfites, sulfide, aluminum or magnesium dust) may generate heat, fires, explosions and toxic vapors. Do not mix with amines. Sodium nitrite can react with certain amines to produce N-nitrosamines, many of which are cancer-causing agents to laboratory animals. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of carbon, Oxides of nitrogen

### 11. TOXICOLOGICAL INFORMATION

The following results are for the product.

**ACUTE ORAL TOXICITY :**

Species	LD50	Test Descriptor
Rat	> 2,000 mg/kg	Product
Rating :	Non-Hazardous	



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## PRIMARY SKIN IRRITATION :

Draize Score                                      Test Descriptor  
0.5 / 8.0                                              Product  
Rating : Minimally irritating

## PRIMARY EYE IRRITATION :

Draize Score                                      Test Descriptor  
16.7 / 110.0  
Rating : Mildly irritating

## SENSITIZATION :

Repeated or prolonged contact may cause skin sensitization.

## CARCINOGENICITY :

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

## HUMAN HAZARD CHARACTERIZATION :

Based on our hazard characterization, the potential human hazard is: Moderate

## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL EFFECTS :

The following results are for the product.

### ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Rainbow Trout	96 hrs	57 mg/l	Product
Turbot	96 hrs	> 2,000 mg/l	
Rainbow Trout	96 hrs	57 mg/l	Product

### ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descriptor
Daphnia magna	48 hrs	670 mg/l		Product

### PERSISTENCY AND DEGRADATION :

Total Organic Carbon (TOC) : 37,000 mg/l

Chemical Oxygen Demand (COD) : 23,300 mg/l

### Biological Oxygen Demand (BOD) :

Incubation Period	Value	Test Descriptor
	703 mg/l	

The organic portion of this preparation is expected to be readily biodegradable.



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### MOBILITY :

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM , provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	30 - 50%	50 - 70%

The portion in water is expected to be soluble or dispersible.

### BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.

### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Low

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: High

If released into the environment, see CERCLA/SUPERFUND in Section 15.

## 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

## 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

The presence of an RQ component (Reportable Quantity for U.S. EPA and DOT) in this product causes it to be regulated with an additional description of RQ for road, or as a class 9 for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

### LAND TRANSPORT :

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
Technical Name(s) : SODIUM NITRITE



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UN/ID No : UN 3082  
Hazard Class - Primary : 9  
Packing Group : III  
  
Flash Point : Not applicable  
  
DOT Reportable Quantity (per package) : 2,000 lbs  
DOT RQ Component : SODIUM NITRITE

### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
Technical Name(s) : SODIUM NITRITE  
UN/ID No : UN 3082  
Hazard Class - Primary : 9  
Packing Group : III  
IATA Cargo Packing Instructions : 914  
IATA Cargo Aircraft Limit : NO LIMIT (Max net quantity per package)

### MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

## 15. REGULATORY INFORMATION

### NATIONAL REGULATIONS, USA :

#### OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Metasilicate : Corrosive

Sodium Tetraborate : Exposure Limit

Sodium Nitrite : Target Organ Effect - Kidney, Target Organ Effect - Nervous system, Target Organ Effect - Blood

Sodium Nitrate : Oxidizer

Sodium Mercaptobenzothiazole : Corrosive, Dermal Sensitizer

#### CERCLA/SUPERFUND, 40 CFR 117, 302 :

This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product. If a reportable quantity of product is released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D.C. (1-800-424-8802).

RQ Substance  
Sodium Nitrite

RQ  
2,000 lbs



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SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :

This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

- X Immediate (Acute) Health Hazard
- X Delayed (Chronic) Health Hazard
- Fire Hazard
- Sudden Release of Pressure Hazard
- Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :

This product contains the following substance(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals

<u>Hazardous Substance(s)</u>	<u>CAS NO</u>	<u>% (w/w)</u>
Sodium Nitrite	7632-00-0	1.0 - 5.0
Sodium Nitrate	7631-99-4	1.0 - 5.0

TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

This product contains the following substances listed in the regulation:

<u>Substance(s)</u>	<u>Citations</u>
<ul style="list-style-type: none"> <li>• Sodium Nitrite</li> <li>• Sodium Hydroxide</li> </ul>	Sec. 311

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :

This product does not contain substances which require warning under California Proposition 65.



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### MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

### STATE RIGHT TO KNOW LAWS :

The following substances are disclosed for compliance with State Right to Know Laws:

Sodium Nitrate	7631-99-4
Sodium Nitrite	7632-00-0
Sodium Tetraborate	1330-43-4

### NATIONAL REGULATIONS, CANADA :

#### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

#### WHMIS CLASSIFICATION :

D2A - Materials Causing Other Toxic Effects - Very Toxic Material, D2B - Materials Causing Other Toxic Effects - Toxic Material

#### CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

This product contains substance(s) which are found on the Non-Domestic Substances List (NDSL).

#### INTERNATIONAL CHEMICAL CONTROL LAWS

#### EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

## 16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

\* The human risk is: Moderate

\* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should



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be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Prepared By : Product Safety Department

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